【引用文献】

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【引用部分】

5.2 Recent Projects

Although there are now many groups working on program transformations, we shall briefly mention only some of those that recently became active in the field.

5.2.1 The CROPS/Pascal System

The CROPS (Conversational Restructuring, Optimizing, and Partitioning System) / Pascal system [Chusho 1980] is an interactive optimization system implemented in Pascal for Pascal programs that perform matrix computations. The system is characterized by having a generative set of basic rules (commands) out of which new rules can be built. Supporting this aspect of the system is a slightly different view of program transformations (optimization commands): Transformations are not considered as preverified theorems on programs but rather as interactively specified replacement steps whose correctness must still be verified. However, by hierarchically basing arbitrary commands on more primitive ones, this correctness proof is strongly supported by the system and individual proof techniques are only occasionally needed. More primitive commands include predefined optimization commands; commands for testing, debugging, or verifying optimization commands; and edit commands for line/character manipulating and restructuring. Typical examples of predefined optimization commands include rules for changing the structure of loops (split, merge, move, rotate, expand), renaming variables, moving parts of code, doing expansion, performing strength reduction, and implementing a simple form of symbolic execution.

【REFERENCES】

CHUSHO, T. 1980. A good program = a structured program + optimization commands. *In Information Processing 80*, S. H. Lavington, Ed. Elsevier North-Holland, New York, pp. 269-274.